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Running Head: CREATIVITY, MEANINGFULNESS AND POSITIVE AFFECT

How Does Creativity at Work Influence Employee's Positive Affect at Work?

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Abstract

Although determinants of creativity underlying innovative behaviour at work have been extensively studied, scant research has addressed creativity as a predictor variable. This paper proposes that creativity has a positive impact on employees' positive affect at work. Two studies were conducted. Study 1 used multi-source data (170 employee-supervisor dyads) to analyse the association between creativity at work, rated by the immediate supervisor, and employees' reported affect at work. Results showed that creativity at work is positively related to positive affect at work over and above employees' optimism (dispositional trait). Study 2 replicated and extended these findings using two-wave data from 108 high-school teachers. Results evidenced that employees who were more creative at work (T1) were more likely to report having more frequent positive affect at work 3 months later (T2). The level of meaningfulness of work (T1) mediated the effects of creativity on employees' positive affect at work. These findings provide evidence for framing creativity in the workplace as a meaningfulness-making activity that affects employees' positive affect at work. The implications of these findings and areas for future research are discussed.

Keywords: creativity at work; affect at work; meaningfulness of work; optimism; promotion focus.

How Does Creativity at Work Influence Employee's Positive Affect at Work?

Introduction

The growing complexity and dynamism of the work environment and the corresponding need for organizations to adapt to changing circumstances make them ever more reliant on their employees' ability to continually innovate and be creative. Considerable value is placed on employees identifying alternative ways of solving problems, and on their creative use of knowledge. Creative behaviour at work is considered a vital way for organizations to gain a competitive advantage (Agars, Kaufman, & Locke, 2008); it not only enables them to respond to unforeseen challenges but also to proactively develop new capabilities (Zhou & Hoever, 2014). Creativity, centred on idea generation, is considered by many authors to be "the first stage in the innovation process" (West, 2002, p. 356). However, Anderson, Potočnik, and Zhou (2014) posit that "idea generation by employees in the focal organization is not a pre-requisite for innovation"; it can be generated by people outside the focal organization (p. 1299). Arguing that innovation and creativity in the workplace are not identical constructs, Anderson and colleagues (2014) propose though an integrative view of them: "*Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation to the subsequent stage of implementing ideas toward better procedures, practices, or products*" (p. 1298). Our research focused on the creativity stage of the innovative processes in the workplace.

In the current literature on creativity, considerable research has focused on factors that may either foster or impede creativity in organizations (see Anderson et al., 2014, for a recent review; and Hammond, Neff, Farr, Schwall, & Zhao, 2011, for a meta-analysis). Nevertheless, there has been only limited progress in understanding the

outcomes of creativity in the workplace. Although research on the consequences of employee creativity has been highlighted as one of the most important avenues for future creativity research (Anderson et al., 2014; Gilson, 2008; Mumford, 2003; Zhou & Shalley, 2008), few researchers have responded to the call for further investigation. Moreover, the relatively scarce studies that do analyse the benefits of creativity have focused on performance, adaptation to change or innovation (see Gilson, 2008 for a review), which are organizational and performance-centred outcomes. As such, they miss the consequences of creativity with regard to employees' affect (for exceptions, see Amabile, Barsade, Mueller, & Staw, 2005; Rasulzada & Dackert, 2009). The present study aims to fill this gap by analyzing how creativity at work influences employees' positive affect at work.

Investigating affect as a potential outcome of employees' creative work behaviour is important because, as Forgas and George (2001) posit, "how people feel at work can have profound effects on their thought processes, judgements, decision making, and behaviours" (p. 4). Indeed, a growing body of research has shown that positive affective states influence critical organizational variables (see Barsade & Gibson, 2007, for a review), not only with regard to relevant performance outcomes, but also individuals' health. The experience of positive affect appears to be linked to more positive evaluative judgements of the events occurring within the organization (Weiss & Cropanzano, 1996). Lyubomirsky, King, and Diener (2005) argued that people experiencing positive affect at work are more likely to actively involve themselves in the pursuit of new goals and approach behaviours. Accordingly, research has shown that employees who experience positive affect at work tend to engage in higher levels of work effort (Foo, Uy, & Baron, 2009), show more prosocial behaviour and cooperation, are more likely to have reduced levels of conflict with colleagues, tend to have better

results in conflict resolution and in decision making activities, and to have reduced withdrawal behaviours, like absenteeism and turnover (see Barsade & Gibson, 2007, for a review). All of these aspects are central to the effective functioning of organizational settings. Besides, in the literature we can also find numerous studies that provide evidence to show that states of positive affect play a crucial role in peoples' objective and subjective health. It is, in fact, positively related to indicators of physical health functioning – such as cardiovascular health, inflammatory activity, immune function, and endocrine regulation - and longevity (for examples of reviews and meta-analysis: Diener & Chan, 2011; Howell, Kern, & Lyubomirsky, 2007; Pressman & Cohen, 2005; Wright, Cropanzano, Bonett, & Diamond, 2009).

It is for these reasons that we aim to explore in this study whether, and why, people who carry out more creative behaviours at work are more likely to report higher levels of positive affect at work. If research has already consistently shown that creativity in the workplace is an affect-driven behaviour (with affect preceding creative thoughts and behaviours) (e.g., Binnewies & Wornlein, 2011; Bledow, Rosing, & Frese, 2013; George & Zhou, 2007; Rank & Frese, 2008; Zhou & George, 2001), much work has still to be done to show that creativity may also fuel affect as an outcome. Amabile and colleagues (2005) advocated the existence of an organizational affect-creativity cycle and tried to disentangle affect as a predictor, as concomitant with and a consequence of creative thoughts. In fact, they suggested that the affective consequences of creativity “are likely to be more direct and immediate” than the effects of affective state on subsequent creativity (p. 375). However, they did not describe the mechanisms that would explain why those employees with more creative thoughts would report higher levels of positive affect. Additionally, Amabile and colleagues (2005) only analysed creative thoughts but did not analyse the affective impact of

creative behaviours. In the present work, we contribute to the literature by extending the theoretical framework of Amabile and colleagues (2005) while specifying, both theoretically and empirically, the mediating mechanism that diffuses the effect of creativity on employee's positive affect at work. We propose that the association between employees' creativity and their positive affect at work might be explained by the meaningfulness of work (MW) that people derive from their creativity in the workplace.

Meaningfulness of work occurs when work is seen as an important source of meaning in one's life. Thus, it refers to the employee's subjective experience of work as being both significant - important for the individual and guaranteeing him a sense of purpose (Pratt & Ashforth, 2003) - and being positive in valence, contributing to one's personal growth (Steger, Dik, & Duffy, 2012). According to Drazin, Glynn, and Kazanjian (1999), acting creatively is a choice made by the employee as a result of cross-level processes which help the individual interpret and make sense of complex, ambiguous and ill-defined situations: what do these situations signify and what kind of challenge do they represent? Our approach contrasts with Drazin's et al. (1999) in that we focus on creativity, not as an outcome of a sense-making interpretative process, but as a trigger of meaningfulness of work, helping to answer the question "why am I here?" (Pratt & Ashforth, 2003, p. 311). In that sense, our proposal extends the sense-making perspective of creativity in the workplace to a meaningfulness-making one, by focusing on the consequences of creativity for the meaningfulness of work.

In order to analyse the impact of creativity in positive affect at work, we developed two studies. In Study 1 we tested whether being creative at work (rated by the supervisors) fosters employees' activated positive affect at work, controlling for employees' optimism. In Study 2, with a two-wave design, we examined whether the

perception of MW would explain the impact of creative behaviours on employee's activated positive affect at work.

The most significant theoretical contributions of our work are thus threefold. First, proposing that creative behaviour is a meaningfulness-making activity extends the perspective of creativity of Drazin et al. (1999) as an outcome of sense-making processes. We suggest that meaningfulness-making is a powerful outcome of creative action and an influential force that can foster employees' positive affect at work as a result of creativity in the workplace. In doing so, we shed light on the mechanism that might explain the relationship between creative behaviour at work and employees' positive affect, expanding Amabile's et al. (2005) preliminary proposal that creativity has affective benefits. Hence, we expand the literature on creativity by proposing that creativity at work is not just a dimension of employees' performance behaviour that helps the individual be more successful or innovative at work, or a coping strategy that helps them deal with a problematic and ambiguous situation at work. But rather, it is a meaningfulness-making activity that influences employees' positive affect at work. Lastly, besides exploring creativity outcomes rather than its predictors (which has been the most current focus on the literature), this present research analyses the consequences creative behaviour have for those who perform them, and not the consequences they have for the organization and organizational effectiveness. This is in line with the request of Weiss and Rupp (2011) for a more person-centric approach in the way researchers try to understand and explain organizational behaviour.

Creativity and Positive Affect at Work

The literature has been consistent in illustrating that creativity at work may be particularly susceptible to affective influence. However, Amabile and colleagues (2005)

also stated that, besides preceding creativity, affect can also be concomitant to creative behaviour or subsequent to it. In fact, in their qualitative research, positive emotions - such as joy, pride, satisfaction, relief or other positive feelings - emerged as the most frequent direct reactions to the reported creative thought events. In the same vein, in a study with a multinational company operating in Sweden, in the high-tech field of industry, Razulzada and Dackert (2009) found that the more creative the organization was rated by the employees, the happier and the more enthusiastic and optimistic they felt. These results would, therefore, point to a correlation between being in an organizational context that is perceived to have higher levels of creativity and innovation and individuals' positive affect.

Creative behaviour involves generating new insights: trying to solve problems, dealing with uncertain situations, or using untried approaches. Since these events may cause anxiety and may be felt as stressors by the individuals, we can expect then that when, through the creative activity, employees are able to solve the problem in question or to make sense of the conflicting information, this will promote positive affect at work. Based on the reasoning presented, and on the initial findings of Amabile et al. (2005) and Razulzada and Dackert (2009), we propose that positive affect at work can operate as a direct consequence of individual creativity at work. In other words, generating ideas regarding products, services or procedures that are novel and useful and that help to solve problems in the work context, may induce positive emotional states in the person generating those ideas.

Hypothesis 1: Creativity at work is positively related to employees' positive affect at work.

Creativity at Work and Creation of a Meaningful Work

In the literature, a couple of authors suggest that creative actions are a result of sense-making processes through which people assign sense (Park, 2010), interpret and try to understand issues, events or situations that are somehow novel, complex, ambiguous, uncertain, ill-defined, confusing or, in some other way, violate expectations, in that they are unexpected (Drazin et al., 1999; Maitlis & Christianson, 2014). Creativity in the workplace is thus a way of making sense of that ambiguity and incongruity. It is a way to explain or interpret a given uncertain situation by assuming a new perspective in order to solve a problem. In this paper we argue that, besides being a situational sense-making activity, creativity is also a source of meaningfulness of work.

Being subjective and an ongoing phenomenon (Wrzesniewski, Dutton, & Debebe, 2003), MW refers to how much purpose and significance the work has for the individual, being existential in its nature (Pratt & Ashforth, 2003). Therefore, being engaged in meaningful work “implies that work matters for its own sake and makes an important, generative contribution to one’s quality of life” (Steger et al., 2012, p. 5).

There are several reasons why creativity at work may ascribe purpose (a sense of directedness and intentionality; Ryff, 1989) and significance (being positive in valence and contributing to personal growth; Steger et al., 2012) to employees’ work, making it more meaningful. The sense of purpose or direction has been related to the capacity to connect present situations to future anticipated events and states (Baumeister & Vohs, 2002). In fact, creativity is inherently a change-oriented and improvement-oriented behaviour and often arises in the course of goal-directed behaviour (Hirst, Van Knippenberg, & Zhou, 2009). In that sense, it is an activity focused on a future ideal state. Therefore, we can expect that when an employee intentionally proposes a new idea, method, or practice to improve organizational functioning, which (at least in their mind) allows the organization to move closer to desired future goals or fulfilment, it

fosters the employee's sense of purpose and, thus, contributes to them perceiving work as being more meaningful.

Additionally, creativity at work can transform employees' experience of the significance of their work by underpinning the individual's perception of control and self-efficacy and by boosting their own self-esteem and the belief that they are able to make a difference in their organizational context. Creative behaviour enables individuals to feel, not only that they have the competence to overcome challenges in the workplace, but that they also have the ability to make change happen in their organizational context (or, at least, to propose it). Hence, creativity at work leads employees to perceive that they exercise some control over their work environment and have a potential impact on it. This may underpin individuals' self-efficacy, enhance the evaluation of their own self-worth and the belief that they are valuable individuals. Hence, the perceived self-efficacy and enhanced self-esteem resulting from enacting creative behaviours at work may then lead to work being experienced as more meaningful (Baumeister & Vohs, 2002; Rosso, Dekas, & Wrzesniewski, 2010).

Moreover, individuals' creativity in the workplace is essential for the process of meaningfulness creation because it enhances feelings of authenticity. Creativity necessarily involves the individual's presentation of his or her own ideas on how to solve incongruities, how to manage discontinuities or how to deal with uncertain situations. As Mirowsky and Ross (2007) put it: to work creatively, the individual must engage in productive self-expression (p. 386). Following that line of thought, we can say that creative behaviours are self-expression exercises. Because of that, they foster a sense of congruence and alignment between an employee's work activities and an employee's self-concept, thus enhancing the "fit between doing and being" (Pratt & Ashforth, 2003, p. 316). Therefore, these creative behaviours shape work

meaningfulness because they enable the individual to maintain congruency and consistency with their interests, values and identities while working (Rosso et al., 2010, pp 108-109).

These arguments are in line with the suggestion of Rosso and colleagues (2010) that authenticity, self-efficacy and self-esteem are important mediating mechanisms to explain how work becomes meaningful. We maintain that all these can be experienced as a result of enacting creative behaviours in the workplace, thus clarifying why creativity at work infuses MW. Hence, taking all the presented arguments into account, we believe that an individual's creativity in the workplace nurtures that individual's experience of MW.

Hypothesis 2: Creativity at work is positively related to the meaningfulness of work experienced.

Meaningfulness of Work and Positive Affect at Work

Several authors have argued that deriving meaning from events is a “fundamental human motive”. Others claim that employees have a fundamental desire to find positive meaning in their work (Rosso et al., 2010). In fact, Baumeister and Vohs (2002) posit that “meaning is a pre-requisite for happiness” (p. 612). Therefore, we can expect that doing work that is experienced as being significant and positive-valenced, with a clear purpose and being oriented toward a desired future state, will induce positive states of affect in the individual.

Indeed, MW has been shown to influence engagement (May, Gilson, & Harter, 2004), job satisfaction (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997) and personal fulfilment (Kahn, 2007). Moreover, people who feel their work is more meaningful report greater levels of psychological well-being and general positive affect

(Arnold, Turner, Barling, Kelloway, & McKee, 2007). In the same vein, Steger et al. (2012), when testing their Work and Meaning Inventory (WAMI), found that meaningful work scores correlated positively with work-related and general well-being indices (job satisfaction and life satisfaction, respectively), and negatively with psychological distress (anxiety, hostility, and depression). In contrast, the lack of MW has been related to higher levels of stress (Locke & Taylor, 1990; Pratt & Ashforth, 2003; Wrzesniewski, 2003). Therefore, although research on the emotional effects of MW has been sparse, it does suggest that a sense of MW is associated with positive affect at work.

Hypothesis 3: Meaningfulness of work is positively associated with positive affect at work.

Meaningfulness of Work as a Mediator

Creative behaviour involves problem solution, management of discontinuities, resolution of incongruities, dealing with uncertain situations, handling conflicting information and, on some occasions, using untested methods. We can, therefore, expect that enacting creative behaviours will help employees regain a sense of control and mastery over their work environment. Moreover, when presenting their ideas regarding the development of better procedures, practices, services or products, their feelings of authenticity and their self-esteem will flourish. The self-efficacy, self-esteem, authenticity, and sense of purpose that surge as a result of creative behaviour will promote the creation of meaningful work. In turn, this experienced MW may induce positive affective states in the individual.

Hypothesis 4: Creativity at work is positively related to positive affect at work through experiencing meaningfulness of work.

Study 1: Creativity and Positive Affect at Work

Study 1 aimed to examine whether the engagement in creative voice behaviours (rated by their immediate supervisor) was positively associated with employees' assessment of their own positive affect at work (Hypothesis 1), over and above their dispositional optimism. Creativity at work was assessed through the measurement of voice, defined as "employees' expression of new ideas or suggestions for improving the overall functioning of their work unit or organization" (promotive voice; Liang, Farh, & Farh, 2012, p. 74). Hence, these voice behaviours entail creativity's key ingredients, in that they are future-oriented problem-solving and coping strategies (McLean Parks, Ma, & Gallagher, 2010). In fact, according to Ng and Feldman (2012), engaging in voice behaviours might help employees receive higher evaluations in terms of creativity at work. Indeed, Zhou and George (2001) considered creativity in the workplace as an expression of voice. In the same way, Kay (1989) reported that, when asked to define prototypical voice behaviours, individuals included "making suggestions on how to improve things" and "proposing new ways of doing things", both of which are consistent with commonly used definitions of employee creativity (Zhou & George, 2001).

Method

Procedure and Participants

This study sample consisted of 170 blue-collar workers from one local store of a large national company in the distribution business, along with their 9 direct supervisors. The store had 254 employees. Employees that the human resources department thought would have difficulty completing the questionnaire, due to their low levels of literacy, did not receive one. Two hundred questionnaires were distributed to employees

(78.74%), with a covering letter assuring them of its confidentiality and that participation was voluntary. One hundred and seventy questionnaires were returned (an 85% response rate). Employees responded to survey questions on job-related affect and perceived health. Employees' immediate supervisors evaluated their creative behaviour (measured as voice initiatives). To match employees' responses with those of their supervisors, each employee was attributed a code number. Supervisors, for their part, were required to indicate the name of each rated employee. More importantly, when receiving questionnaires, both employees and supervisors were instructed that completed surveys should be returned directly to the research team in sealed envelopes to ensure confidentiality of responses.

Participants ranged in age from 19 to 62 years ($M = 34.03$; $SD = 10.16$), had an average tenure of 8.61 years ($SD = 8.99$ years) and 59.4% were female. Most of these employees (56.5%) had only 9 years of formal education. Supervisors ranged in age from 30 to 47 years ($M = 38.89$; $SD = 6.78$) and 66.5% were male. Most of these supervisors (57.1%) had only 9 years of formal education. They had an average tenure as supervisors of 4.99 years ($SD = 2.08$ years) and an average tenure in their current organization of 13.48 years ($SD = 4.22$ years). Each supervisor rated an average of 19 workers ($SD = 11.14$; $Min = 4$; $Max = 33$).

Measures

Creativity at work. Creativity at work was assessed using four items ($\alpha = .94$). Two of the items were adapted from Farrell's (1983) voice behaviour scale geared towards organizational improvement ("This worker talks to the supervisor to try and make things better in this organization"; "This worker gives suggestions to correct what s/he thinks is a problem in this organization"). In order to strengthen the potential

creative facet of voice behaviour, two other items were developed for this study: “This worker contributes with new ideas to improve the functioning of the organization”; “This worker actively presents solutions that contribute to improving the functioning of this organization”.

Supervisors rated how often employees had shown creative behaviours over the last month, completing this measure for each subordinate on a response scale ranging from *never* (1) to *always* (7). Each subordinate's level of creativity was assessed by averaging the responses to the 4 items. Higher scores indicate a higher frequency of creative behaviours. The ICC(1) of supervisor-rated creative behaviour was .28, which is significant when tested with a one-way random effect ANOVA ($F(8, 161) = 5.25$, $p < .001$). To control for the supervisor effect, we group centred each supervisor-rated creativity item. Hence, the variances that could be attributed to supervisors were removed from the general creativity ratings.

Positive affect at work. Positive affect at work was assessed using 3 items of Warr's (1990) scale of job-related affect, which entails emotional states corresponding to activated pleasant affect at work. The employees rated how often, over the last month, working in that organization had made them feel “cheerful”, “enthusiastic”, “optimistic” ($\alpha = .83$). Responses were given on a 7-point Likert-type scale anchored from *never* (1) to *always* (7). Previous studies that analysed the association between creativity and affective states (e.g., Baas, De Dreu, & Nijstad, 2008; Binnewies & Wornlein, 2011; De Dreu, Baas, & Nijstad, 2008) referred that activated positive affective states had stronger relations to creativity than deactivated positive affective states. Accordingly, we decided to examine only the activated dimension of positive affect as a consequence of creativity at work in both studies.

Control variables. Some authors found that dispositional optimism is positively related to creativity at work, since optimists are more motivated to work towards future goals and they tend to cope actively with any problems they encounter (Rego, Sousa, Marques, & Cunha, 2012). Additionally, optimism is also associated with higher levels of positive affect (e.g., Marshall, Wortman, Kusulas, Hervig, & Vickers, 1992; Steptoe, O'Donnell, Marmot, & Wardle, 2008). Therefore, gender (0 = *female*; 1 = *male*), age (years) and dispositional optimism were used as control variables in this study. Three items, comprising the positively worded Life Orientation Test items, from Scheier and Carver (1985), were adapted to assess optimism as a trait ($\alpha = .65$; average variance extracted (AVE) = .42). One example of the items used was “I always look on the bright side of things”. Each item was rated on a 7-point scale ranging from *strongly disagree* (1) to *strongly agree* (7).

Results

Means, standard deviations, zero-order correlations and internal reliabilities for all the studied variables are shown in Table 1. Dispositional optimism was positively associated with creativity at work ($r = .23, p = .003$) and positive affect at work ($r = .46, p < .001$).

(Table 1 around here)

Measurement Model

To test the discriminant validity of our measures, we carried out a confirmatory factor analysis (CFA), specifying our measurement model and comparing it with alternative measurement models. Data were analysed using Structural Equation Modelling (SEM)

with AMOS 22.0 (Arbuckle, 2013). We used the maximum-likelihood estimation method, since all variables had acceptable values of skewness ($|sk| < 2.0$) and kurtosis ($|kul| < 7.0$) for the use of this estimation (Curran, West, & Finch, 1996). Specifically, responses were approximately normally distributed, with skewness values ranging from -0.52 to 0.21 and kurtosis values ranging from -1.07 to 0.31.

The three-factor model (optimism, creativity at work and positive affect at work) (M_0) shows a good fit to the data, $\chi^2(32) = 43.58$, $p = .083$, CFI = .99, RMSEA = .05 [.00, .08], SRMR = .04. Furthermore, all the standardized factor loadings (λ) of the different items on their respective latent variables are significant ($p < .001$), with the average being .78 (creativity at work [.90, .93]; positive affect [.77, .84]; dispositional optimism [.37, .78]). We compared our model M_0 with two alternative models. In the first alternative model (M_1), we combined dispositional optimism and positive affect at work in a single factor. In the second one (M_2), we tested a model with all items related to a single factor (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The chi-square difference tests clearly indicate that the three-factor model (M_0) exhibits a better factor structure than M_1 ($\Delta\chi^2(2) = 37.34$, $p < .001$) and M_2 ($\Delta\chi^2(3) = 275.40$, $p < .001$), thus confirming its discriminant and convergent validity.

(Table 2 around here)

Test of Hypotheses

Results of the hierarchical regression analysis presented in Table 2 showed that, after accounting for age, gender and dispositional optimism as control variables, creativity at work was positively associated with positive affect at work (Table 2: $\beta = .19$, $p = .005$), over and above the effect of employees' dispositional optimism on positive affect at

work (Table 2: $\beta = .41, p < .001$), explaining an increase of 4% in the variance of employees' positive affect at work. Therefore, the data support Hypothesis 1, which stated that creativity at work was positively related to employees' positive affect at work. The tested model explained 26% of the variance in employees' positive affect at work ($R^2_{\text{adjusted}} = .26; F(4, 167) = 15.31, p < .001$).

Study 2: Creativity at Work, Meaningfulness of Work and Positive Affect at Work

Study 1 explored the relationship between creativity at work (measured through promotive voice behaviours reported by the supervisor) and employees' positive affect at work, controlling for employees' dispositional optimism. Our goal for Study 2, following a two-wave design with high-school teachers, was to replicate (testing Hypothesis 1) and extend the findings of the previous study in order to understand what drives the affective benefits of creativity at work. We propose that when people act creatively in their workplace, they attribute more meaningfulness to their own work (Hypothesis 2). In turn, this MW may induce the experience of positive affect at work (Hypothesis 3); being the meaningfulness of work a mediator of the relationship between creative behaviour and positive affect (Hypothesis 4).

To determine whether the observed relations among self-reported creativity at work and positive affect felt at work can be explained by a more stable variable, which could be a confounding variable, we controlled for employees' trait self-regulatory promotion focus in this study. According to the literature, a person's regulatory focus influences the nature and magnitude of their emotional experience, with the presence and absence of positive outcomes being more salient for people who are promotion focused (Brockner & Higgins, 2001). Moreover, research has shown that promotion-focused people are more creative than their prevention-oriented counterparts (e.g.,

Friedman & Förster, 2001; Herman & Reiter-Palmon, 2011) since they are motivated by growth and development needs and seek to attain the goals or standards associated with their ideal selves (Brockner & Higgins, 2001).

The literature on creativity at work shows different measures have been used to evaluate this phenomenon. Since it is possible that the results of Study 1 would not generalize to other types of individual creative behaviours beyond promotive voice behaviours, using a different measure of creativity at work allows us to test for the replicability of these results. Therefore, using distinct operationalisations of creativity helps to assert the replicability of the obtained results regardless of how creativity is assessed. Moreover, collecting data from two different samples with distinct characteristics (blue-collar workers with low levels of education in Study 1, and white-collar workers with high levels of education in Study 2) contribute to the generalizability of our findings.

Method

Procedure and Participants

We conducted a two-wave data collection in a convenience sample of high-school teachers. In Time 1, we sent the questionnaire with a cover letter indicating that the survey was being conducted solely for academic research purposes. The participants were assured of the confidentiality of their responses. A total of 223 teachers completed the Time 1 survey (an 88.1% response rate). Three months after T1, 198 completed the Time 2 survey (a 78.3% response rate from the overall initial starting sample of 253). We chose this time lag for practical reasons. In order to guarantee the responsiveness of our teacher participants, data had to be collected in periods that would not coincide with periods of teachers' work overload (periods of students' evaluations or periods of

teachers' meetings and elaboration of evaluation reports) or in vacation periods. The Time 1 survey contained measures of creativity at work, MW, self-regulatory promotion focus (trait) and socio-demographic variables. At Time 2, we collected data on positive affect at work. The final sample consisted of 108 respondents who, having completed the questionnaires in both moments, also provided their identification code in T1 and T2 (73.80% were female; $M_{\text{age}} = 41.12$ years, $SD_{\text{age}} = 7.61$; $M_{\text{professional tenure}} = 16.88$ years, $SD_{\text{professional tenure}} = 8.35$; $M_{\text{organizational tenure}} = 11.80$ years, $SD_{\text{organizational tenure}} = 7.55$). We conducted *t*-tests in order to compare employees who participated in Time 1 and 2 with employees who did not participate in Time 2. T-tests showed that employees who had participated in both times did not significantly differ from those employees who participated only in T1 with respect to creativity at work, meaningfulness of work, trait self-regulatory promotion focus, age or gender.

Measures

Creativity at work. Creativity at work was measured at T1, using four items adapted from Binnewies and Gromer's (2012) scale of creativity at work ($\alpha = .88$). The employees rated how often over the last month, they, for example, "had new ideas on how to improve my work" or "made a suggestion to change things at work". Responses were given on a 7-point Likert-type scale anchored from *never* (1) to *always* (7).

Meaningfulness of work. Experienced MW was assessed at T1, using the 3 items ($\alpha = .84$) of the "meaning-making through work" (MM) dimension of Steger's et al. (2012) Work as Meaning Inventory (WAMI). We used this dimension because it was the one most related to the purpose and significance that could be derived from the specific work the person is doing. Besides, Steger and colleagues (2012) suggested that the "MM subscale captures a uniquely motivational element of MW that transcends the

workplace” when compared to the other two sub-dimensions of WAMI (p. 10).

Employees were asked to rate how frequently, in the last month, they had felt the following: “I viewed my work as contributing to my personal growth”, “My work helped me better understand myself” and “My work helped me make sense of the world around me”. The responses were assessed on a 7-point Likert scales anchored from *never* (1) to *always* (7).

Positive affect at work. Positive affect at work was assessed at T2 (3 months after T1), using 4 items concerning activated positive core affect at work, adapted from Warr, Bindl, Parker, and Inceoglu (2013) Multi-Affect Indicator, an actualization of the measure of positive affect used in Study 1 (Warr’s (1990) scale of job-related affect). Employees rated how often, over the previous week, working in that organization had made them feel “enthusiastic, inspired, excited, joyful” ($\alpha = .85$). Responses were given on a 7-point Likert-type scale anchored from *never* (1) to *always* (7). Robinson and Clore (2002) suggested that as the time frame over which affect is measured increases, reports begin to take the form of a combination of one's memory for specific affective experiences and events supplemented by dispositional information or other job-relevant information stored in long-term memory (Weiss & Beal, 2005). As Cropanzano, Weiss, Hale, and Reb (2003) posit, when employees have to report more distal experiences or their aggregated “general” affective states, these reports are based not upon actual experiences but upon “beliefs about affective experiences” (p. 840). Therefore, we set a proximal time of one week for the report of the experienced positive affect at work to avoid the bias associated with a memory-based recollection of affective experiences at work concerning a longer period (e.g., in the last 3 months).

Control variables. Gender (0 = *female*; 1 = *male*), age (years) and trait self-regulatory promotion-focus were used as control variables in this study. Three items of

Lockwood, Jordan, and Kunda (2002) promotion scale were used to measure employees' trait self-regulatory promotion focus ($\alpha = .67$; AVE = .43). One example of the items was "I typically focus on the success I hope to achieve in the future". Each item was rated on a 7-point scale ranging from *totally false* (1) to *totally true* (7).

Results

Means, standard deviations, zero-order correlations and internal reliabilities for all the studied variables are shown in Table 3. Trait self-regulatory promotion focus was positively associated with creativity at work ($r = .32, p < .001$) and meaningfulness of work ($r = .46, p < .001$), but the zero-order correlation with positive affect at work was not significant ($r = .18, p = .07$).

(Table 3 around here)

Measurement Model

We conducted a set of confirmatory factor analyses with AMOS 22.0 (Arbuckle, 2013) to examine the discriminant validity of our measures. We used the maximum-likelihood estimation method since all variables had acceptable values of skewness (values ranging from -0.84 to 0.54) and kurtosis (values ranging from -0.98 to 0.79) (see Curran et al., 1996).

The hypothesized four-factor (trait self-regulatory promotion focus, creativity at work, meaningfulness of work and positive affect at work) measurement model (M_0) fitted the data well ($\chi^2(71) = 99.75, p = .014, CFI = .96, RMSEA = .06 [.03, .09], SRMR = .06$). All the standardized factor loadings (λ) of the different items on their respective latent variables were significant ($p < .001$), with the average being .75. CFA tests suggested that the constructs were distinct. In fact, the four-factor model (M_0)

provided a significantly better fit than a three-factor model (M_1 ; trait self-regulatory promotion focus, positive affect at work, and indicators of creativity at work and MW loading onto one latent construct) ($\Delta\chi^2(3) = 76.54, p < .001$). It was also a significantly better fit than a two-factor model (M_2 ; positive affect at work and the indicators for promotion focus loading onto one latent construct, and creativity at work and MW (all measured at T1) loading onto another latent construct) ($\Delta\chi^2(5) = 122.97, p < .001$). Indeed, the hypothesized four-factor model also showed a better fit to the data than a one-factor model ($\Delta\chi^2(6) = 277.135, p < .001$), which indicates that common method variance would not represent a major threat to our results (Podsakoff et al., 2003).

(Table 4 around here)

Test of Hypotheses

We conducted hierarchical regression analyses to test our hypotheses. Table 4 presents the results of the hierarchical regression predicting positive affect at work. In Step 1, we entered age, gender and trait self-regulatory promotion focus; in Step 2, we entered creativity at work and, in Step 3, we entered MW in the regression model. Hypothesis 1 predicted that creativity at work would be positively associated with positive affect at work. As shown in Table 4, creativity at work was positively associated with positive affect at work after controlling for age, gender and trait promotion focus ($\beta = .29, p < .001$), thus supporting Hypothesis 1.

(Table 5 around here)

Table 5 presents the results of the hierarchical regression predicting meaningfulness of work. In Step 1, we entered age, gender and trait self-regulatory promotion focus; and in Step 2, we entered creativity at work. As shown in Table 5, creativity at work was positively associated with MW after controlling for age, gender and trait promotion focus, thus supporting Hypothesis 2, which posited that creativity at work would be positively related to MW. Hypothesis 3, which stated that meaningfulness of work would be positively related to positive affect at work, was supported by the results, as shown in Table 4 ($\beta = .42, p \leq .001$). With regard to Hypothesis 4, which suggested that MW would mediate the relationship between creativity at work and employees' positive affect at work, the results of the regression analysis presented in Table 4 support a full mediation model (Baron & Kenny, 1986). The analysis revealed that the positive relationship between creativity and positive affect at work was no longer significant when MW was introduced in the regression model ($\beta = .06, p = .51$). The tested model explained 19% of employees' positive affect variance ($R^2_{\text{adjusted}} = .19; F(5, 100) = 5.74, p < .001$).

To test the magnitude and significance of the hypothesized indirect effect, we used established procedures for bootstrapping this effect, as suggested by Preacher and Hayes (2008). Thus, we bootstrapped 5000 samples to obtain 95% bias-corrected confidence intervals (BC CIs) using INDIRECT macro (Preacher & Hayes, 2008). The indirect effect of creativity at work on positive affect through MW, controlling for age, gender and trait promotion focus was significant, in that the BC bootstrap confidence interval did not include zero (95% BC CIs [0.12, 0.42]) and had a point estimate of .25. This supports the last hypothesis (H3) according to which creative behaviours are associated with employees' positive affect at work through the experienced meaningfulness of work.

General Discussion

In this research we examined how employees' creative behaviour in the workplace shape their positive affect at work. Further, we analysed the role that meaningfulness of work might play in explaining that relationship. This research, therefore, focuses on the consequences individual creativity in the workplace has for employee's positive affect. Although determinants of creativity underlying innovative behaviour at work have been extensively studied, investigation addressing creativity as a predictor variable has been limited, despite all the calls for greater research attention on this (Anderson et al., 2014; Gilson, 2008; Mumford, 2003; Zhou & Shalley, 2008). Hence, this is one of our contributions to the literature on creativity.

Both studies reported here found that the enactment of creative behaviours at work exerted a positive influence on the positive affect employees felt at work. Using different measures of creativity at work (Study 1, promotive voice; Study 2, creativity), two distinct sources of report (Study 1, supervisors' rating; Study 2, employee's self-report) and samples from different populations (Study 1, blue-collar workers with low levels of education; Study 2, white-collar workers with high levels of education), we obtained similar results in both studies. The employees that more often generated ideas and improvement-oriented suggestions, more frequently experienced emotional states corresponding to pleasant affect at work (e.g., feeling enthusiastic or cheerful), over and above employee's dispositional optimism (Study 1), and individual's trait self-regulatory promotion focus (Study 2). These results are in line with Amabile and colleagues' (2005) preliminary evidence of the impact of creative thoughts on employees' emotions. However, although these authors had already suggested that creativity would have an impact on employees' affect, the model they presented did not

point to the processes that could explain how and why creative behaviour in the workplace would affect employees' affect.

The purpose of Study 2, a two-wave study with high-school teachers, was thus to identify the mechanism that would explain why employees who came up with new ideas and suggested new ways to improve organizational functioning, would more frequently feel positive affect at work. The results of Study 2 - the first, to our knowledge, to relate creativity and meaningfulness of work - provide general support for our hypotheses that creative behaviour fosters the experience of MW which, in turn, is associated with more frequent feelings of positive affect at work. Hence, the results of our second study replicate and extend the findings of Study 1 and allow us to argue that creativity at work is a meaningfulness-making activity that promotes positive affect at work. Our findings suggest that when people act creatively in their workplace, they attribute more purpose and significance to their own work, thus making it more meaningful. In turn, this meaningfulness of work helps to explain the affective benefits of creativity. This study sheds light on the reason why creative behaviour at work relates to employees' positive affect, which is a second contribution of our research to the literature on creativity.

Conceptualizing creativity as a predictor variable offers a novel set of possibilities for future research into the effects of creativity on employees. The scant empirical research on workplace creativity outcomes, namely that regarding creativity's impact on performance (e.g., Agars et al., 2008; Zhou & Hoever, 2014), has followed what Yuan and Woodman (2010) called the efficiency-oriented perspective, in which it is assumed that creativity behaviour maximizes organizational efficiency gains, helping the organization to achieve a competitive advantage. Our work endorses a complementary approach of creativity as an activity that promotes meaningfulness of

work. Hence, we emphasize the symbolic function of creative actions for the employee and the influence they may have on employee's affect and emotional well-being.

Additionally, the studies presented here extend our understanding of the positive effects of creativity at work for the employee that acts creatively, which has been rare in the literature. Following the appeal of Weiss and Rupp (2011) for a more prominent focus on the employee and on the subjective experience of working, our studies addressed the consequences of creative action for those who perform it; specifically, for the individuals' creation of meaningful work and for their affect at work. Therefore, our work embodies a more person-centric approach of creativity at work.

Limitations and Future Research

Despite these contributions, our research has some limitations that would suggest fruitful directions for future research. First, our reasoning implies the existence of causal effects of creativity at work on meaningfulness of work and, in turn, on positive affect at work. Yet, our empirical design does not allow for the establishment of causal inferences. We believe that the model presented here is plausible, given the theory, past empirical research, and the use of a 2-wave design in our Study 2. However, since we did not have repeated measures for the focal variables, it was not possible to check for the reciprocal relationships between them. Hence, alternative explanations still exist for the presumed causal effects that could be explored in forthcoming research using longitudinal or experimental designs. For example, while we have posited that creativity at work causes positive affect at work, we already know that employees with high levels of positive affect tend to engage in more creative behaviours (cf. Amabile et al., 2005; Binnewies & Wornlein, 2011; Rank & Frese, 2008). In the same vein, it is possible that individuals who more frequently experience positive affect at work, will use those

emotional states as input information to evaluate the significance and purpose of their work (cf. Affect Infusion Model, Forgas, 1995). For that reason, they will report higher levels of MW. Moreover, Drazin et al. (1999) proposed that the sense-making interpretation one makes of the ambiguous situations experienced in the organizational context influences the extent to which one engages in the process of creativity. Therefore, future research should use longitudinal studies to test the possible circular relationships between sense-making, creative behaviour and MW.

A second limitation lies in the fact that, although we used a multi-source research design in our Study 1, and a multi-wave time-lagged design in our Study 2 to minimize common method variance concerns, as recommended by Podsakoff and colleagues (2003), we cannot disregard the possibility of this bias on the studied effects. In particular, with regard to creative behaviours on MW, given that in Study 2 these variables were both self-reported and were measured in the same moment of time. Therefore, in future studies, these should be measured in different times, with repeated measures to better control for this possible bias. Following the suggestion of one reviewer, we controlled employees' trait self-regulatory promotion focus, which is a possible confounding variable since, being relatively stable, it could be related to self-rated creativity, MW, and positive affect. It could also explain the correlations observed between the focal variables. However, when we analysed our model setting this variable as a control, the relationships between our variables remained in the same direction and were all significant. Therefore, we are confident in the validity of the results obtained.

Another drawback lies in the fact that the reliabilities of our control measures - dispositional optimism and trait promotion focus - were somewhat below, although close to, the traditional (arbitrary) cut-off points of .70 for alpha and .50 for AVE, what may make the convergent validity of these measures more vulnerable. However,

considering that these variables were used as control variables and were not variables of interest of our model, and that the obtained alphas and AVE's were not far from the proposed standard limits, we would expect that in a replication study the obtained results would not be dramatically different even if the presented ones might be under the influence of some measurement error. Moreover, we performed post-hoc analyses withdrawing the item with larger variance and lower factor loading in each of the measures (dispositional optimism: Spearman-Brown coefficient, $r_{SB} = .71$; trait self-regulatory promotion focus: Spearman-Brown coefficient, $r_{SB} = .70$) and rerunning the regression models using only two items to measure dispositional optimism and trait promotion focus: the results remained the same.

In Study 2, we tested the influence of creativity on positive affect at work using a three-month time lag. Although we chose this time lag for practical reasons, as explained in the method, such a time lag is not uncommon in the literature (see Bindl, Parker, Totterdell, & Hagger-Johnson, 2012, Study 2, for another example). In principle, we could expect that the found effect would be stronger if the time lag were shorter. The time frame chosen in Study 2 might also be justified as creative behaviours at work do not take place on a daily or weekly basis and their effect can be cumulative over time. Still, future research will benefit from employing experience sampling or day-level research techniques, along with studies over time, to better elucidate the effect of creativity on positive affect at work.

Based on Rosso and colleagues' (2010) suggestions, we described several mediating mechanisms—authenticity, self-efficacy, and self-esteem—that potentially account for the links between creative behaviour and meaningfulness of work. Nevertheless, we did not measure them. Having established in our study the positive

relationship between enacting creative behaviours and finding the work meaningful, we feel that in future investigations these mediations should be empirically tested.

The final limitation is that we did not consider the consequences of creative behaviour. Namely, whether or not creative behaviour was accepted by relevant others, such as supervisors and co-workers, and whether the presented ideas were implemented leading to the subsequent innovation. Although the reactions to creativity may not be immediate – considerable time may go by before these creative proposals are considered, evaluated and, more importantly, implemented – the way others react to them may be a relevant factor in predicting individuals' MW and affective states. In the same vein, following Wrzesniewski and colleagues (2003), the cues employees receive from others in the course of their behaviours at work (e.g., co-workers and supervisors feedback on employees' creativity) are crucial inputs for the process through which work becomes more, or less, meaningful to them. Therefore, the real or perceived consequences of creativity at work, namely its successful implementation guaranteeing innovation, can set the boundaries for the effect of creative behaviour on self-efficacy and self-esteem and, consequently, on MW. However, Pratt and Ashforth (2003) argued that “meaningfulness is not necessarily dependent on the goals actually being realized: the pursuit of valued goals (...) may by itself foster a sense of purpose” (p. 311). Thus, we could say that, in some way, there might be a direct impact of creative behaviours on MW, regardless of the implementation of the ideas generated or, in others words, independently of the capacity of the individual to really innovate. Nevertheless, future research is needed to investigate the role of reactions to creativity in regulating the effect of creative behaviours on employee's MW and affect at work.

Our findings open up several new avenues for research. Following Pratt and Ashforth (2003), who argue that organizational practices can influence whether and

how members interpret their work as meaningful, we believe it would be interesting to analyse, in future studies, how organizational practices - e.g., support for creativity from supervisors and co-workers (Madjar, Oldham, & Pratt, 2002) or the use of high involvement working processes - might influence the relationship between creativity at work and the perceived meaningfulness of work. For example, we would expect that in organizations with weak climates of support for innovation and creativity or low involvement working processes, creativity may be less likely to induce meaningfulness of work.

Some researchers also proposed that the meaningfulness of work varies depending on the depth or strength of the relationship established between the individual and the domain of work, particularly regarding work centrality for the individual (Rosso et al., 2010). Therefore, it might be fruitful for future research to explore the extent to which the level of work centrality, or of organizational identification, acts as a moderator of the relationship between engaging in creative behaviours at work and perceiving work as meaningful. We would expect that the more difficult it is for the individual to dissociate from the job or the organization, the greater would be the impact of their actions on the work context for the experience of MW.

In the contexts here studied (blue-collar workers and high-school teachers) creativity is not an in-role behaviour; it is rather an extra-role behaviour, meaning that it is a voluntary or discretionary behaviour (not a forced or compulsory one). In other words, creative behaviour at work is a self-initiated behaviour aimed at bringing about change at work. In this sense, it is always a self-expression exercise. However, the consequences of this self-expression for felt MW can be moderated by other factors that were not studied in this work. Therefore, future research should analyse the impact of people's self-concept (namely regarding their creativity identity) on the relationship

between enacting creative behaviour and feeling authenticity at work. Thus, we can expect that when creative behaviour aligns with self-attributions of creativity, affirming or verifying this self-conception, it is more likely to be experienced as a more authentic activation of the “true” self (Rosso et al., 2010, p. 109) and, consequently, is more strongly associated with MW. Hence, we would expect that creative identity would enhance the effect of creativity on authenticity and thus also on MW.

Practical Implications

Our findings show that creativity is not only beneficial for organizations enhancing their capacity to innovate and their effectiveness, but it also has significant consequences for the individuals that perform those same creative behaviours. This is important because “behaviours that are beneficial for organizations may not be for actors” (Lin & Johnson, 2015, p. 11). Consequently, our results suggest that employees’ experience of MW, along with their positive affect at work, can be enhanced through their engagement in creative behaviours. Therefore, creativity at work should receive more managerial attention due to its positive association with MW and affect at work, as well as its impact on organizational performance with gains for competitive advantage (Agars et al., 2008) adaptation to change (Zhou & Hoever, 2014) and innovation (e.g., West, 2002). Hence, managers and organizations should consider creating conditions that stimulate creativity in the workplace as a way of promoting employees’ meaningfulness of work and positive affect at work. The stimulation of organizational climates that support creativity and innovation and the encouragement of managers to opt for transformational leadership (e.g., Gong, Huang, & Farh, 2009; Shin & Zhou, 2003) are some examples of ways to nurture and stimulate creativity at work.

Conclusion

The aim of this research was to investigate the impact of creativity underlying innovative behaviour at work on employees' positive affect at work. We proposed and, indeed, found that creativity at work had a positive impact on employee's positive affect and that this effect was due to the creation of meaningful work, subsequent to the enactment of creative behaviours. The present work evidences the symbolic function of creativity for the employee while framing creativity at work as a meaningfulness-making activity, one that infuses employees' work with purpose and significance.

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Table 1

Means, Standard Deviations, and Correlations among Variables (Study 1)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Positive affect at work	4.74	1.19	(.83)				
2. Creativity at work	-.48	1.23	.29***	(.94)			
3. Dispositional optimism	5.30	.98	.46***	.23**	(.65)		
4. Age	34.03	10.16	.15	.00	.03	-	
5. Gender ^a	.41	.49	.06	.02	.03	-.05	-

Note. $n = 170$. Cronbach's alphas are shown in italics along the diagonal.

*** $p < .001$; ** $p < .01$.

^a 0 = female, 1 = male.

Table 2

Results of Hierarchical Regression Analysis Predicting Positive Affect at Work: Study 1

	Step 1			Step 2		
	β	t	p	β	t	p
Age	.15	2.18	.030	.15	2.23	.027
Gender	.05	.71	.480	.05	.71	.477
Dispositional optimism	.46	6.69	.000	.41	6.00	.000
Creativity at work				.19	2.83	.005
ΔR^2		.24***			.04**	

Note. *** $p < .001$; ** $p < .01$.

Table 3

Means, Standard Deviations, and Correlations among Variables (Study 2)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1 Positive affect at work	6.75	4.36	(.85)					
2. Creativity at work	4.22	1.10	.32***	(.88)				
3. Meaningfulness of work	4.99	1.22	.46***	.58***	(.84)			
4. Trait promotion focus	5.50	.87	.18	.20*	.25*	(.67)		
5. Age	41.12	7.61	-.07	-.02	-.12	-.16	-	
6. Gender ^a	.26	.44	.12	-.04	-.06	-.05	.19*	-

Note. $n = 108$. Cronbach's alphas are shown in italics along the diagonal.

*** $p < .001$; ** $p < .01$; * $p < .05$.

^a 0 = female, 1 = male.

Table 4

Results of Hierarchical Regression Analysis Predicting Positive Affect at Work: Study 2

	Step 1		Step 2		Step 3	
	β	t	β	t	β	t
Age	-.06	-.54	-.06	-.57	-.03	-.29
Gender	.11	1.12	.12	1.26	.15	1.57
Trait promotion focus	.17	1.65	.11	1.13	.05	.50
Creativity at work			.29**	3.00	.06	.51
Meaningfulness of work					.42***	3.69
ΔR^2		.04		.08**		.11***

Note. *** $p < .001$; ** $p < .01$.

Table 5

Results of Hierarchical Regression Analysis Predicting Meaningfulness of Work: Study

2

	Step 1		Step 2	
	β	t	β	t
Age	-.07	-.68	-.07	-.87
Gender	-.05	-.56	-.02	-.29
Trait promotion focus	.26*	2.67	.16	1.90
Creativity at work			.55*	6.79
ΔR^2		.08*		.29***

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.